Submitted to HQ 11-83

Draft

Facility name: Findett Corporation

Location: St. Charles, MO.

EPA Region: Region VII

Person(s) in charge of the facility: Milton Tegethoff, President

Name of Reviewer: William Oberk; D. Kopsick   Date: 9-6-83

General description of the facility:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Findett Corporation recycled PCB fluids until prohibited by regulatory changes. Contaminated soil has been removed by excavation, drumming and approved disposal. Groundwater wells and sediment sampling has been conducted to detect extent of contamination. Analytical results are not available yet and the ~~##~~ ranking should be reevaluated when more data is available. Contamination was detected in shallow or many groundwater, which may not be connected to major alluvial aquifer. For the purposes of this ranking, this contamination was considered to represent groundwater contamination

Scores: S_M = 37.93 S_{gw} = ~~65.6~~ 65.62 ACF S_{sw} = 0 S_a = 0

S_{FE} = 0.0

S_{DC} = ~~8.5~~ 12.5 ACF

FIGURE 1
HRS COVER SHEET

0795   40424511   1.0

Superfund

0U0D

Ground Water Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
[1] Observed Release	0 (45)	1	45	45	3.1
If observed release is given a score of 45, proceed to line [4]. If observed release is given a score of 0, proceed to line [2].					
[2] Route Characteristics					3.2
Depth to Aquifer of Concern	0 1 2 3	2		6	
Net Precipitation	0 1 2 3	1		3	
Permeability of the Unsaturated Zone	0 1 2 3	1		3	
Physical State	0 1 2 3	1		3	
Total Route Characteristics Score				15	
[3] Containment	0 1 2 3	1		3	3.3
[4] Waste Characteristics					3.4
Toxicity/Persistence	0 3 6 9 12 15 (18)	1	18	18	
Hazardous Waste Quantity	0 (1) 2 3 4 5 6 7 8	1	1	8	
Total Waste Characteristics Score			19	26	
[5] Targets					3.5
Ground Water Use	0 1 2 (3)	3	9	9	
Distance to Nearest Well/Population Served	0 4 6 8 10 / 12 16 18 20 / 24 30 32 (35) 40	1	35	40	
Total Targets Score			44	49	
[6] If line [1] is 45, multiply [1] x [4] x [5]. If line [1] is 0, multiply [2] x [3] x [4] x [5]			3762.0	57,330	
[7] Divide line [6] by 57,330 and multiply by 100			S_{gw} = 65.62		

FIGURE 2
GROUND WATER ROUTE WORK SHEET

Surface Water Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
[1] Observed Release	0 (45)	1	45	45	4.1
If observed release is given a value of 45, proceed to line [4]. If observed release is given a value of 0, proceed to line [2].					
[2] Route Characteristics					4.2
Facility Slope and Intervening Terrain	0 1 2 3	1		3	
1-yr. 24-hr. Rainfall	0 1 2 3	1		3	
Distance to Nearest Surface Water	0 1 2 3	2		6	
Physical State	0 1 2 3	1		3	
Total Route Characteristics Score				15	
[3] Containment	0 1 2 3	1		3	4.3
[4] Waste Characteristics					4.4
Toxicity/Persistence	0 3 6 9 12 15 (18)	1	18	18	
Hazardous Waste Quantity	0 (1) 2 3 4 5 6 7 8	1	1	8	
Total Waste Characteristics Score			19	26	
[5] Targets					4.5
Surface Water Use	(0) 1 2 3	3	0	9	
Distance to a Sensitive Environment	(0) 1 2 3	2	0	6	
Population Served/Distance to Water Intake Downstream	(0) 4 6 8 10 12 16 18 20 24 30 32 35 40	1	0	40	
Total Targets Score			0	55	
[6] If line [1] is 45, multiply [1] x [4] x [5]. If line [1] is 0, multiply [2] x [3] x [4] x [5]			0	64,350	
[7] Divide line [6] by 64,350 and multiply by 100		S_{SW} =	0		

FIGURE 7
SURFACE WATER ROUTE WORK SHEET

Air Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
[1] Observed Release	0 ... 45	1	0	45	5.1
Date and Location:					
Sampling Protocol:					
If line [1] is 0, the S_a = 0. Enter on line [5]. If line [1] is 45, then proceed to line [2].					
[2] Waste Characteristics					5.2
Reactivity and Incompatibility	0 1 2 3	1		3	
Toxicity	0 1 2 3	3		9	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
	Total Waste Characteristics Score			20	
[3] Targets					5.3
Population Within 4-Mile Radius	0 9 12 15 18 21 24 27 30	1		30	
Distance to Sensitive Environment	0 1 2 3	2		6	
Land Use	0 1 2 3	1		3	
	Total Targets Score			39	
[4] Multiply [1] x [2] x [3]				35,100	
[5] Divide line [4] by 35,100 and multiply by 100		S_a =	0		

FIGURE 9
AIR ROUTE WORK SHEET

	s	s^2	
Groundwater Route Score (S_{gw})	65.62	4305.98 ~~4303.4~~	ACF
Surface Water Route Score (S_{sw})	0	0	
Air Route Score (S_a)	0	0	
$S_{gw}^2 + S_{sw}^2 + S_a^2$		4305.98 ~~4303.4~~	ACF
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		65.62	
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} \,/\, 1.73 = S_M =$		37.93	ACF

FIGURE 10
WORKSHEET FOR COMPUTING S_M

Fire and Explosion Work Sheet						
Rating Factor	Assigned Value (Circle One)		Multi-plier	Score	Max. Score	Ref. (Section)
1 Containment	(1)	3	1	1	3	7.1
2 Waste Characteristics						7.2
Direct Evidence	(0)	3	1	0	3	
Ignitability	(0) 1	2 3	1	0	3	
Reactivity	(0) 1	2 3	1	0	3	
Incompatibility	(0) 1	2 3	1	0	3	
Hazardous Waste Quantity	(0) 1	2 3 4 5 6 7 8	1	0	8	
Total Waste Characteristics Score				0	20	
3 Targets						7.3
Distance to Nearest Population	0 1	2 3 (4) 5	1	4	5	
Distance to Nearest Building	0 1	(2) 3	1	2	3	
Distance to Sensitive Environment	(0) 1	2 3	1	0	3	
Land Use	0 1	2 (3)	1	3	3	
Population Within 2-Mile Radius	0 (1)	2 3 4 5	1	1	5	
Buildings Within 2-Mile Radius	0 (1)	2 3 4 5	1	1	5	
Total Targets Score				11	24	
4 Multiply 1 x 2 x 3				0	1,440	
5 Divide line 4 by 1,440 and multiply by 100			S_{FE} =	0		

FIGURE 11
FIRE AND EXPLOSION WORK SHEET

Direct Contact Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Incident	0 (45)	1	45	45	8.1
If line 1 is 45, proceed to line 4 If line 1 is 0, proceed to line 2					
2 Accessibility	0 1 2 3	1		3	8.2
3 Containment	0 15	1		15	8.3
4 Waste Characteristics Toxicity	0 1 (2) 3	5	15 ~~10~~	15	8.4
5 Targets					8.5
Population Within a 1-Mile Radius	0 (1) 2 3 4 5	4	4	20	
Distance to a Critical Habitat	(0) 1 2 3	4	0	12	
Total Targets Score			4	32	
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5			2700 ~~1800~~	21,600	
7 Divide line 6 by 21,600 and multiply by 100		S_{DC} =	~~8.3~~	12.5	

FIGURE 12
DIRECT CONTACT WORK SHEET

August 16, 1982

FIT QUALITY ASSURANCE TEAM

DOCUMENTATION RECORDS
FOR
HAZARD RANKING SYSTEM

INSTRUCTIONS: As briefly as possible summarize the information you used to assign the score for each factor (e.g., "Waste quantity = 4,230 drums plus 800 cubic yards of sludges"). The source of information should be provided for each entry and should be a bibliographic-type reference. Include the location of the document.

FACILITY NAME: FINDETT CORPORATION

LOCATION: St. Charles, MO.

DATE SCORED: 9/6/83

PERSON SCORING: William Oberle

PRIMARY SOURCE(S) OF INFORMATION (e.g., EPA region, state, FIT, etc.):

EPA region and FIT reports as well as Findett reports.

FACTORS NOT SCORED DUE TO INSUFFICIENT INFORMATION:

NONE

COMMENTS OR QUALIFICATIONS:

Hazards ranked on past presence of PCB's and 1,1,1 - trichlorethylene or 1,1,1 - trichloroethane as documented in the above mentioned sources. Consideration has been given to current exuting conditions, in relation to waste volumes and groundwater contamination.

GROUND WATER ROUTE

1. OBSERVED RELEASE

Contaminants detected (5 maximum):

PCB's in oil-water mixture collected in 10' borehole (above alluvial aquifer).

Rationale for attributing the contaminants to the facility:

Facility recycled PCB fluids and other chemicals over a period of seven years. Soil samples have confirmed presence of PCB's in on-site sediments.

2. ROUTE CHARACTERISTICS

Depth to Aquifer of Concern

Name/description of aquifer(s) of concern:

Mississippi River alluvial aquifer

Depth(s) from the ground surface to the highest seasonal level of the saturated zone [water table(s)] of the aquifer of concern:

3 feet + - measured in April, 1983
10-18 feet - normal depth to groundwater (static water level)

Depth from the ground surface to the lowest point of waste disposal/ storage:

6 feet+

Net Precipitation

Mean annual or seasonal precipitation (list months for seasonal):

36 inches/year

Mean annual lake or seasonal evaporation (list months for seasonal):

36 inches/year

Net precipitation (subtract the above figures):

0 inches/year

Permeability of Unsaturated Zone

Soil type in unsaturated zone:

montmorillonite clay

Permeability associated with soil type:

2.3 to 9.4×10^{-7} cm/sec

Physical State

Physical state of substances at time of disposal (or at present time for generated gases):

liquid and sludge

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3. CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

Hot liquids released to quench pond, dry out in plastic clay. No leachate collection system. Wastewater from processing discharged into ditch north of plant.

Method with highest score:

Same as above

4. WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:

PCB's

Compound with highest score:

PCB's - Sax

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (Give a reasonable estimate even if quantity is above maximum):

4 tons (8000 lbs): maximum amount disposed - less than this amount will currently be present on-site due to removal activities

Basis of estimating and/or computing waste quantity:

reported by Findett officials to EPA inspector.

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5. TARGETS

Ground Water Use

Use(s) of aquifer(s) of concern within a 3-mile radius of the facility:

Drinking water supply for City of St. Charles, MO.

Distance to Nearest Well

Location of nearest well drawing from aquifer of concern or occupied building not served by a public water supply:

nearest city well located ~ 2000 - 3000 feet NE of site

Distance to above well or building:

2000 - 3000 ft.

Population Served by Ground Water Wells Within a 3-Mile Radius

Identified water-supply well(s) drawing from aquifer(s) of concern within a 3-mile radius and populations served by each:

31,800 - 1980 Missouri census of St. Charles, MO.

Computation of land area irrigated by supply well(s) drawing from aquifer(s) of concern within a 3-mile radius, and conversion to population (1.5 people per acre):

0

Total population served by ground water within a 3-mile radius:

31,800

SURFACE WATER ROUTE

1. OBSERVED RELEASE

Contaminants detected in surface water at the facility or downhill from it (5 maximum):

PCB's

Rationale for attributing the contaminants to the facility:

direct evidence from EPA sampling of drainage creek leaving site.

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2. ROUTE CHARACTERISTICS

Facility Slope and Intervening Terrain

Average slope of facility in percent:

≤ 3%

Name/description of nearest downslope surface water:

Dardenne Creek

Average slope of terrain between facility and above-cited surface water body in percent:

≤ 3%

Is the facility located either totally or partially in surface water?

No

Is the facility completely surrounded by areas of higher elevation?

No - higher elevations (bluffs) located to south

1-Year 24-Hour Rainfall in Inches

2.5 - 3.0 inches

Distance to Nearest Downslope Surface Water

9500 feet north-northwest

Physical State of Waste

liquid - sludge

3. CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

Wastewater discharges from reprocessing of PCB's flowed either into quench pond and from there into a ditch on the east side of plant or into ditch on north side of plant, then Northwest toward

Method with highest score: Bardenne Creek.

Same as above

4. WASTE CHARACTERISTICS

Toxicity and Persistence

Compounds(s) evaluated

PCB's

Compound with highest score:

PCB's

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (Give a reasonable estimate even if quantity is above maximum):

4 tons maximum

Basis of estimating and/or computing waste quantity:

reported by company officials to EPA inspector

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5. TARGETS

Surface Water Use

Use(s) of surface water within 3 miles downstream of the hazardous substance:

none

(Mississippi River is located 3.2 miles to the north

Is there tidal influence?

no

Distance to a Sensitive Environment

Distance to 5-acre (minimum) coastal wetland, if 2 miles or less:

none

Distance to 5-acre (minimum) fresh-water wetland, if 1 mile or less:

none

Distance to critical habitat of an endangered species or national wildlife refuge, if 1 mile or less:

none

Population Served by Surface Water

Location(s) of water-supply intake(s) within 3 miles (free-flowing bodies) or 1 mile (static water bodies) downstream of the hazardous substance and population served by each intake:

none

Computation of land area irrigated by above-cited intake(s) and conversion to population (1.5 people per acre):

N/A

Total population served:

N/A

Name/description of nearest of above water bodies:

Dardenne Creek and Mississippi River

Distance to above-cited intakes, measured in stream miles.

N/A

AIR ROUTE

1. OBSERVED RELEASE

Contaminants detected:

None in ambient air
- HNU readings recorded in boreholes during sampling operations.

Date and location of detection of contaminants:

N/A

Methods used to detect the contaminants:

N/A

Rationale for attributing the contaminants to the site:

N/A

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2. WASTE CHARACTERISTICS

Reactivity and Incompatibility

Most reactive compound:

N/A

Most incompatible pair of compounds:

N/A

Toxicity

Most toxic compound:

N/A

Hazardous Waste Quantity

Total quantity of hazardous waste:

N/A

Basis of estimating and/or computing waste quantity:

N/A

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3. TARGETS

Population Within 4-Mile Radius

Circle radius used, give population, and indicate how determined:

0 to 4 mi 0 to 1 mi 0 to 1/2 mi 0 to 1/4 mi

N/A

Distance to a Sensitive Environment

Distance to 5-acre (minimum) coastal wetland, if 2 miles or less:

N/A

Distance to 5-acre (minimum) fresh-water wetland, if 1 mile or less:

N/A

Distance to critical habitat of an endangered species, if 1 mile or less:

N/A

Land Use

Distance to commercial/industrial area, if 1 mile or less:

N/A

Distance to national or state park, forest, or wildlife reserve, if 2 miles or less:

N/A

Distance to residential area, if 2 miles or less:

N/A

Distance to agricultural land in production within past 5 years, if 1 mile or less:

N/A

Distance to prime agricultural land in production within past 5 years, if 2 miles or less:

N/A

Is a historic or landmark site (National Register or Historic Places and National Natural Landmarks) within the view of the site?

N/A

FIRE AND EXPLOSION

1. CONTAINMENT

Hazardous substances present:

none

Type of containment, if applicable:

N/A

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2. WASTE CHARACTERISTICS

Direct Evidence

Type of instrument and measurements:

none

Ignitability

Compound used:

N/A

Reactivity

Most reactive compound:

N/A

Incompatibility

Most incompatible pair of compounds:

N/A

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Hazardous Waste Quantity

Total quantity of hazardous substances at the facility:

N/A

Basis of estimating and/or computing waste quantity:

N/A

* * *

3 TARGETS

Distance to Nearest Population

N/A

Distance to Nearest Building

N/A

Distance to Sensitive Environment

Distance to wetlands:

N/A

Distance to critical habitat:

N/A

Land Use

Distance to commercial/industrial area, if 1 mile or less:

N/A

Distance to national or state park, forest, or wildlife reserve, if 2 miles or less:

N/A

Distance to residential area, if 2 miles or less:

N/A

Distance to agricultural land in production within past 5 years, if 1 mile or less:

N/A

Distance to prime agricultural land in production within past 5 yearss, if 2 miles or less:

N/A

Is a historic or landmark site (National Register or Historic Places and National Natural Landmarks) within the view of the site?

N/A

Population Within 2-Mile Radius

N/A

Buildings Within 2-Mile Radius

N/A

DIRECT CONTACT

1. OBSERVED INCIDENT

Date, location, and pertinent details of incident:

1963 - Firdett site - valve broke off tank spilling 1,1,1- trichloro~~ethyl~~ethylene or trichloroethane and temporarily blinded M. Tegethoff president of Firdett Corp.

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2. ACCESSIBILITY

Describe type of barrier(s):

fence with gate on road leading to site.

* * *

3. CONTAINMENT

Type of containment, if applicable:

N/A

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4. WASTE CHARACTERISTICS

Toxicity

Compounds evaluated: PCB's on site
1,1,1- trichlorethylene - may produce severe physical impairment which may be reversed over a period of time - Level 2 - Sax

Compound with highest score:

1,1,1 - trichloroethylene

PCB

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5. TARGETS

Population within one-mile radius

1-100

Distance to critical habitat (of endangered species)

none within 1 mile